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EXAMINER

SINGH, RAMNANDAN P

ART UNIT PAPER NUMBER

2644

DATE MAILED: 02/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/784,827

Applicant(s)

PRENDERGAST ET AL.

Examiner

Dr. Ramnandan Singh

Art Unit

2644

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *A corrected copy of Fig. 5.*

## DETAILED ACTION

### *Drawings*

#### 1. Correction of Informalities -- 37 CFR 1.85

New formal drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. In Fig. 5, the direction of element 60 should be **reversed**. A marked-up copy of the drawing in red ink is enclosed.

### Content of Specification

3. (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet. (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps.

4. Claim 21 is objected to because of the following informalities:

Too many blank lines are between claim 19 on page 17 and claim 20 on p. 18.

Appropriate correction is required.

***Double Patenting***

5. Analysis: Claims 12-18 of the copending application number 09/788,211 recites a communication system with an isolation barrier circuit comprising at least one isolation element; a first digital to analog circuit having an analog output coupled to a first side of the isolation barrier circuit and an input for receiving a first digital input signal to be communicated across the isolation barrier and a second digital to the analog circuit having an analog output coupled to a second side of the isolation barrier circuit and an input for receiving a second digital input signal ; and so on.....

Claim 1 of the instant application recites an isolation barrier with analog communication across an isolation barrier comprising an isolation barrier having at least one isolation element; a digital to analog circuit having an analog output connected to the isolation barrier and an input for receiving an input digital signal to be communicated across the isolation barrier; and an analog to digital circuit having an input coupled to the analog output of the isolation barrier circuit for providing a digital output signal.

Clearly, claims 12-13 of the copending application recites all the limitations of claim 1 of the instant application and more ... Hence, claim 1 of the instant application is broad, and encompasses claims 12-13 of the copending application. A similar analysis holds for other claims.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-24 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-39 of copending Application No. 09/788,211. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-24 of the instant application encompass the limitations of claims 1-39 of the co-pending Application No.

09/788,211. In addition, omission of a reference element whose function is not needed would be obvious to one of ordinary skill in the art. It is well settled that the omission of an element and its function is an obvious expedient if remaining elements perform the same function as before.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmerich [US 5,392,218] in view of Minegishi [US 5,966,277], and further in view of Scott et al [US 5,870, 046]

Regarding claims 1-13, Emmerich teaches an analog communication with an analog isolation barrier starting with an analog signal, transmitting across an analog

Art Unit: 2644

isolation barrier, and finally converting the analog output to a digital signal for an onward transmission; wherein an isolation system 85; isolation barrier circuits 93 and 95 ; an analog to digital converter 75; an isolation element 157 [Fig. 5] ; and an analog multiplexer 77 [col. 4, lines 47-67; col. 5, lines 1-2; col. 5, lines 10-345; col. 6, lines 34-68; col. 8, lines 45-68; col. 9, lines 1-9].

Emmerich does not teach expressly a digital to analog converter [DAC], and an analog isolation barrier circuit with a capacitor.

Scott et al an analog isolation with digital communication across a capacitive barrier wherein an analog to digital converter (ADC) and a digital to analog converter are employed to convert these signal from one form to another for communication purposes.

Minegishi teaches an analog isolation circuit using transformers (11, 12) [Fig. 3], and capacitors (101, 102, 103) [Fig. 11].

Emmerich . Minegishi, and Scott et al are analogous art because they are from a similar problem solving area, viz. , telephonic communications.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the DAC of Scott et al , and a capacitive analog communication barrier of Minegishi with Emmerich.

The suggestion/motivation for doing so would have been to provide an ability to communicate a digital signal across an analog isolation barrier which is a full digital transmission using an analog communication system with analog isolation barrier.

Therefore, it would have been obvious to combine Minegishi and Scott et al with Emmerich to obtain the invention as specified in claims 1-13.

Regarding claims 14-20, the combination of Emmerich . Minegishi, and Scott et al teaches an average signal across the isolation barrier [Scott et al; col. 13, lines 46-49].

All other limitations are shown above.

10. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Emmerich . Minegishi, and Scott as applied to claims 1-20 supra.

Regarding claims 21-24, the combination of Emmerich . Minegishi, and Scott et al teaches a bi-directional isolation system with analog communication [ Minegishi,



Art Unit: 2644

Figs. 4 and 11] using a reverse analogy of Scott et al [ Fig. 7]. Further, Scott et al teaches a **bi-directional communication**, as shown in Fig. 7, depicting elements 701, 702 and 703 in reverse order as elements 713, 712, and 711; and vice versa.

All other limitations are shown in paragraph 9 supra.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alternatively, (i) Drainville [US 5574396] for an analog isolation circuit; and (ii) Bremer et al [US 5,537,441] for controlled simultaneous analog and digital communication.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9314 for regular communications and (703)872-9314 for After Final communications.

Art Unit: 2644

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-0377.

Dr. Ramnandan Singh  
Examiner  
Art Unit 2644



November 23, 2001



FORESTER W. ISEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2700

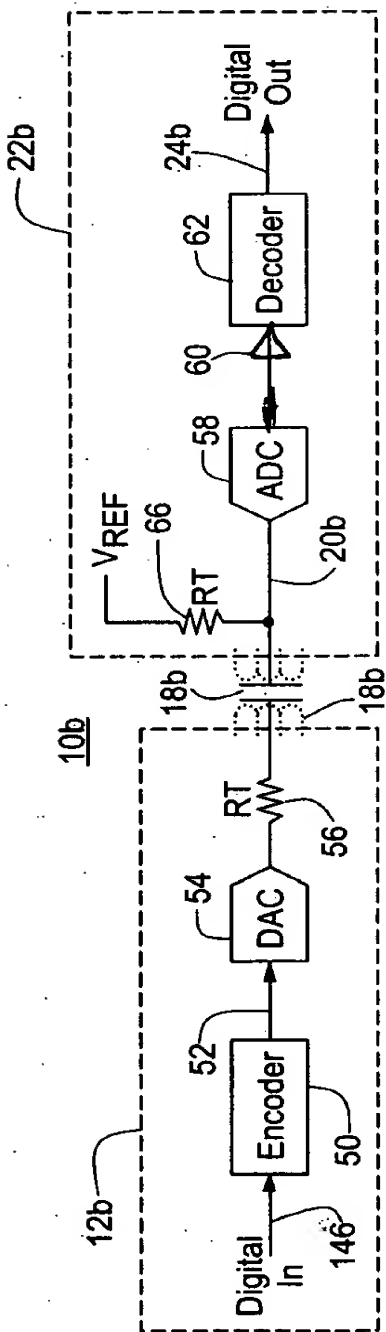


FIG. 5